

Flies, Bees and Butterflies on La Palma, Canary Islands in 1976

By PETER J. CHANDLER *

In late May and early June 1976, I stayed ten nights on La Palma, the most westerly of the Canary Islands when my intention was to compare the dipterous fauna with that on Tenerife, which I had visited in early April 1973. As the total diversity of the Canarian Diptera is relatively low, however, some attention was also given to other insects especially aculeate Hymenoptera and butterflies.

La Palma is a small island of 730 square kilometres, but is extremely rugged, rapidly rising from coastal cliffs to inland mountain ranges and in the broader north there is a large central crater—9 kilometres in diameter, La Caldera de Taburiente, which is a national park. The highest point of the island (2,413 metres) is on the northern rim of the Caldera. The broad leaved evergreen forest type ("laurisilva"), which formerly dominated the more humid northern slopes of the western Canary Islands, was best developed on La Palma but now only a few pockets of high laurel forest remain, dominated by the trees *Ocotea foetens* (Aiton) Benth., and *Laurus azorica* (Seub.) Franco with about 15 other species of evergreen trees and shrubs. Much of it has been replaced with a secondary growth ("fayal-brezal") dominated by the evergreen shrub *Myrica faya* Aiton and tree heather *Erica arborea* L. The more common woodland type is dominated by *Pinus canariensis* Chr. Sm., which forms open woods clothing much of the Caldera and the higher slopes of the mountain ranges even quite close to the southern extremity of the island, which lacks the semi-desert south of the other western islands although xerophytic scrub is present on large areas especially on the western slopes. The lower slopes are more or less intensively cultivated and the laurisilva particularly has suffered by clearance for agriculture. The landscape is cut by many deep ravines (barrancos), which radiate from the Caldera and the ranges of Cumbre Nueva and Cumbre Vieja further south; many of these were once torrents but the water from them has been canalised and all are now dry. The microclimate of the surviving remnants of laurel forest has, however, preserved many of the moisture loving insects. The faunal diversity of the generally more open pine forest is usually lower.

Machado (1977) carried out extensive field work on La Palma in 1975 and was unable to refute the apparent poverty of the carabid beetle fauna compared with the other western islands; he deduced that this was due to the geological youth of most of La Palma, which has several recently active volcanos. This factor appears to have had less effect on other more mobile insects where there are in any case fewer endemic species confined to single islands. The total dipterous fauna of the Canary Islands (Frey, 1936, 1958) is upwards of 800 species; probably at least half occur on La Palma but it is

* Weston Research Laboratories, 644 Bath Road, Taplow, Maidenhead, Berks. SL6 0PA.

difficult to be precise because much revision is necessary of the work of Dr. Elias Santos Abreu, who published considerable descriptive works on several groups of Diptera from 1918 to 1930 (his work on Muscidae, Fanniidae and Anthomyiidae was published posthumously as recently as 1976). Dr. Santos lived at Santa Cruz de la Palma and much of the material he studied originated in this island. Baez (1977) has revised the Syrphidae and reduced the Canarian list to 26 species, to which few additions now seem likely; 23 occur on La Palma and I found 16 during my visit. Theowald (1977) thoroughly revised the Tipulidae of the Canaries, Madeira and the Azores; he recognised 28 Canarian species, of which 17 occurred on La Palma and I found seven of these there. Another recent contribution on Canarian Diptera was by Papp (1977) on the Sphaeroceridae, bringing the Canarian list to 34.

At least 260 of the Canarian Diptera are currently considered endemic to these islands or to the Canaries, Madeira and the Azores (Macaronesia), although this figure is continually undergoing revision. Better knowledge of faunas of adjacent areas is essential before endemism can be certain in the less worked groups. Half of the 28 Tipulidae are endemic, a higher proportion than in most families. In the Syrphidae, eight of the 26 species are endemic (five of them closely related *Eumerus* species) and there are distinct local forms of two other species. François (1970) has shown the endemism of two bombyliids previously thought conspecific with widespread forms. The only well attested case of speciation having occurred within the Canary Islands is in *Promachus*, a genus of large (24-34 mm.) robust asilids where there are five species each inhabiting a different island; they fly in late June to August and I have not met with them.

I collected about 190 species of Diptera on my visit to La Palma, of which Muscidae and Mycetophilidae with 18 species each were the richest families; the latter group were confined to very circumscribed refuges and were hard to find in most localities, although being particularly sought because of my projected revision of the Canarian fungus gnats. The Muscidae are the best represented dipterous family in the Canaries with about 70 species (at least 60 in La Palma, but more than a third are the riparian Limnophorinae which have evidently now declined).

The aculeate Hymenoptera are poorly represented on La Palma compared with the drier parts of the other islands. Ten species of bees and seven of wasps were observed during my visit. Lieftinck (1958) listed 70 species (55 precisely determined) of Canarian bees, of which 14 were recorded from La Palma. Peters (1975) added two species to the Canarian list and one to La Palma. Warncke (1968) increased the Canarian *Andrena* from five to 19, recording four from La Palma, but this genus did not occur during my visit. De Beaumont (1968) increased the Canarian list of Sphecidae to a probable 52 (44 precisely determined), based largely on Guichard's material but only four were recorded from La Palma. Soika (1974)

recorded 16 species of Eumenidae, three of which he considered recent introductions, but only one (*A. fortunatus*) from La Palma. Other groups of wasps have been neglected but records of six species in other families are given by Bischoff (1936), who records *Vespula germanica* (L.), a scoliid and a chrysid from La Palma.

Guichard (1976) tabulated the butterflies known from the Canaries, recognising 26 species and two subspecies of which 20 were listed from La Palma; of these 15 were observed during my visit. The five not recorded were the two *Danaus* spp., *Vanessa atalanta* (L.), *V. cardui* (L.) and *Zizeeria knysna* (Trimen). Since Guichard's summary, the large white and brimstone have been recognised to be endemic Canarian species; according to Kudrna (1975) the *Gonepteryx* on La Palma is a distinct species (*G. palmae* Stamm) from that on Tenerife and Gomera (*G. cleobule* (Hübner)). Kudrna (1973) also followed other recent authors in accepting *Pieris cheiranthi* (Hübner) as a distinct species, supported by larval coloration and biology differing from *P. brassicae* (L.). Manley & Allcard (1970) also recognised the skipper *Thymelicus christi* Rebel & Rogenhofer as an endemic species although Schmidt-Koehl (1971) considered it conspecific with *T. acteon* (Rott.) in his comprehensive account of the butterflies of Tenerife. There are thus 27 species of butterflies on the Canary Islands of which seven are endemic as are the Canarian subspecies of three others.

I stayed in the main town, Santa Cruz de la Palma, situated centrally in a wedge of low ground on the east coast with hills rising steeply behind and with the aid of a hired car it was possible to reach most parts of the island. On my arrival it was cloudy as it was to be for most of my stay, but there was little rain and the clouds often cleared to provide sunny spells, the weather on higher ground being especially changeable.

On the first morning, I followed the tortuous road to the north of the capital, initially investigating a dry ravine at the foot of a scrub covered hillside south of the La Galga tunnel. The butterflies *Pieris rapae* (L.), *Maniola jurtina hispulla* (Esper) and *Pararge xiphioides* Staud. were frequent and a few *Thymelicus christi* and *Cyclirius webbianus* (Brullé) were seen. The bees *Lasioglossum viride unicolor* (Brullé) and *L. laetum* (Brullé) were here at flowers and *Bombus terrestris canariensis* Pérez were common; these three species were found in most relatively open localities visited. *B. t. canariensis* is a very distinct race—mainly black with a white tail and is the only *Bombus* known in the Canary Islands. Among the Diptera, *Thereva occulta* Beck. was alighting on rocks when the sun broke through; the Orthoptera parasite *Stomorhina lunata* (F.) was numerous here and in similar localities. Flowers attracted the common European hoverflies *Episyrphus balteatus* (Deg.), *Sphaerophoria scripta* (L.), *Meliscaeva auricollis* (Mg.) and *Eristalis tenax* (L.) and the endemic *Melanostoma incompletum* Beck. The small dolichopodid *Chrysotimus varicoloris* Beck. was numerous running over foliage of bushes. In shady spots some flies characteristic of

the laurisilva occurred, e.g. *Euleia separata* (Beck.), *Hebecnema rufitibia* Stein, *H. fumosa* (Mg.) and *Sapromyza insularis* Beck. (the three latter were frequent in such places throughout La Palma).

In the afternoon I proceeded to the laurel woods at Los Tilos but the weather deteriorated and rain began at 4.0 p.m. Insects were sparse, although some typical species were collected including a few Tipulidae and Mycetophilidae, *Asteia amoena* Mg., *Drosophila pallida* Zett., *Hylemya latevittata* Stein, *Helina obscurisquama* (Stein) and *Fannia pubescens* Stein. A female *Sylvicola* (Anisopodidae — family first recorded from the Canaries on *S. fenestralis* (Scop.) by Baez (1977)) was found.

On the following day, 26th May, I went south and made a foray on the south-west slopes of the Montaña del Fuego Las Indias. Overgrown fields containing much *Opuntia* graded into pine scrub and a large variety of flowers were present. *Pieris rapae* was seen and the lycaenids *Lampides boeticus* (L.) and *Aricia cramera* (Eschscholtz) were numerous. The small bombyliids *Cyrtosia canariensis* Engel and *Geron hesperidum* Frey and the syrphids *M. auricollis*, *Scaeva pyrastris* (L.) and *Syritta pipiens* (L.) occurred at flowers; *Sphaerophoria scripta* was abundant. The silver haired *Thereva frontata* Beck. was settling on volcanic ash and several of a slender brown *Thereva* like a small *occulta* were taken. The many small acalypterates included several tephritids (among them an *Ensina*, probably *decisa* Woll. only hitherto known from Madeira) and *Pherbellia argyrotarsis* (Beck.). *Musca vitripennis* Mg. and *Helina duplicata* (Mg.) were common and a few *H. clara* (Mg.) were caught; *Dilophus minor* Beck. was abundant here and in many other scrubby places in and near pine forest — it was the only bibionid seen in La Palma while my visit to Tenerife, being earlier, also produced the other two Canarian bibionids.

Then returning via Fuencaliente, I stopped briefly on open windswept ground near the Volcán de San Antonio. *M. j. hispulla* and *Eristalis tenax* were flying and seven species of Tephritidae (including *Sphenella marginata* (Fall.) not seen elsewhere) were swept but little else was about.

The east slopes of the Montaña del Fuego north of Fuencaliente support open pine woods interspersed with cultivation, where a short stop produced little of note. *Metasyrphus corollae* (F.) and the tephritid *Oedosphearella canariensis* (Macq.) were first found. Where low pine foliage touched the ground, it provided a moist spot harbouring a few of the mycetophilid *Macrocrea incompleta* Beck.

On 27th May, I took the northern route again, continuing past Barlovento until the Garafia road became a dirt track, where rather degraded mixed forest was sampled in slight rain. Sweeping heather produced several species of mycetophilids and two females of *Callomyia dives* Zett. (Platypezidae) previously known from Tenerife under the name *fortunata* Lw. The syrphids *M. incompletum*, *M. auricollis* and *M. corollae*

were seen; most other Diptera were in common with Los Tilos but a single example of the beautiful tephritid *Orotava caudata* (Beck.) was swept up. As no woods worth investigating remained in the entire stretch from Barlovento through Los Sauces, I returned to Los Tilos where I concentrated on the Barranco del Agua, a narrow deep gorge adjacent to the laurel forest, which contained some stagnant pools. Several *Tipula rufina* Mg. were flying, chironomids and psychodids were numerous, a few dolichopodids (*Sympycnus*, *Hercostomus* spp.) and mycetophilids occurred as did *Thaumalea subafricana* Beck. and *Dicranomyia* spp. but in general the catch was disappointing.

In late afternoon, I stopped at the village of La Galga and took the route prescribed by Bramwell & Bramwell (1974), i.e. the steep track alongside the water conduit, following the base of a cliff and eventually reaching the mature laurel forest of Cubo de la Galga which fills the floor of a narrow valley hemmed in by hills on three sides. It was too late in the day to produce much of interest but *Suillia oceana* (Beck.) and *Euleia separata* (of the shining black form — all others seen were brown variety "flavicollis") were taken. *Aulacigaster leucopeza* (Mg.), which Baez (1977) added to the Canarian list, was frequent and it was decided to return to this locality on a more propitious day.

On the fourth day I travelled on the southern route through Fuencaliente and took the road north on the west side of the Cumbre Vieja, where it traversed rugged country lightly wooded with pine. The first stop was made near El Charco, where a dry flowery gulley crossed the road adjacent to pine forest. The flowers here attracted the orange bodied syrphid *Chrysotoxum triarquatatum* Macq. and the robust *Tachina canariensis* Macq., which resembles our *T. fera* (L.) in coloration (except for a narrower median stripe on the abdomen) but is of the build of *Nowickia ferox* (Panzer.). *S. pyrastris*, *E. balteatus*, *M. auricollis* and *E. tenax* occurred and the butterflies *C. webbianus* and *Vanessa indica vulcania* (Latreille & Godart) were seen. The black larvae of a *Cionus* weevil were conspicuous on foliage of *Scrophularia glabrata* Aiton.

Proceeding northwards via Los Llanos de Aridane, I followed the tortuous route through the banana plantations of the Barranco de las Angustias where many *Anax* dragonflies were on the wing and made another stop in an arid partly cultivated area 2 km. north of the viewpoint of El Time. Butterflies were numerous here along a dry ravine with shrubby vegetation, especially *P. rapae*, *A. cramera* and *M. j. hispulla*; several *Colias crocea* (Geoff. in Fourcr.) and a single *Pontia daplidice* (L.) were seen. Only ten species of Diptera were collected but these included seven Syrphidae, *E. balteatus*, *S. scripta*, *S. pipiens*, *Myathropa florea* (L.) var. *nigrofemorata* Santos, *Ischiodon aegyptium* (Wied.) and two of the endemic *Eumerus* species (*latitarsis* Macq. and *purpureus* Macq.) which settled on stems of the prolific *Opuntia*.

(To be continued)